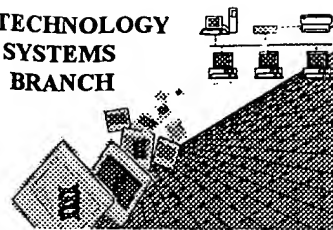


0570  
1008

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/886,349  
Source: O/PK  
Date Processed by STIC: 10/8/2003

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.1 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

**<http://www.uspto.gov/web/offices/pac/checker/chkr41note.htm>**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to (EFFECTIVE 12/01/2003):  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office.  
Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 10/08/2003



OIPE

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

3 <110> APPLICANT: Skeiky; Yasir  
 4 Reed, Steven  
 5 Alderson, Mark  
 6 Corixa Corporation  
 8 <120> TITLE OF INVENTION: Fusion Proteins of Mycobacterium Tuberculosis  
 10 <130> FILE REFERENCE: 014058-009070US  
 12 <140> CURRENT APPLICATION NUMBER: US 09/886,349  
 13 <141> CURRENT FILING DATE: 2001-06-20  
 15 <150> PRIOR APPLICATION NUMBER: US 09/597,796  
 16 <151> PRIOR FILING DATE: 2000-06-20  
 18 <150> PRIOR APPLICATION NUMBER: US 60/265,737  
 19 <151> PRIOR FILING DATE: 2001-02-01  
 21 <160> NUMBER OF SEQ ID NOS: 50  
 23 <170> SOFTWARE: PatentIn Ver. 2.1

## ERRORED SEQUENCES

946 <210> SEQ ID NO: 16  
 947 <211> LENGTH: 729  
 948 <212> TYPE: PRT  
 949 <213> ORGANISM: Artificial Sequence  
 W--> 950 <220> FEATURE:  
 950 <223> OTHER INFORMATION: Description of Artificial Sequence: tri-fusion  
 951 protein MTB72F (Ra12-TbH9-Ra35 or MTB32-MTB39  
 952 fusion)  
 954 <400> SEQUENCE: 16  
 955 Met His His His His His His Thr Ala Ala Ser Asp Asn Phe Gln Leu  
 956 1 5 10 15  
 958 Ser Gln Gly Gly Gln Gly Phe Ala Ile Pro Ile Gly Gln Ala Met Ala  
 959 20 25 30  
 961 Ile Ala Gly Gln Ile Arg Ser Gly Gly Gly Ser Pro Thr Val His Ile  
 962 35 40 45  
 964 Gly Pro Thr Ala Phe Leu Gly Leu Gly Val Val Asp Asn Asn Gly Asn  
 965 50 55 60  
 967 Gly Ala Arg Val Gln Arg Val Val Gly Ser Ala Pro Ala Ala Ser Leu  
 968 65 70 75 80  
 970 Gly Ile Ser Thr Gly Asp Val Ile Thr Ala Val Asp Gly Ala Pro Ile  
 971 85 90 95  
 973 Asn Ser Ala Thr Ala Met Ala Asp Ala Leu Asn Gly His His Pro Gly  
 974 100 105 110  
 976 Asp Val Ile Ser Val Thr Trp Gln Thr Lys Ser Gly Gly Thr Arg Thr  
 977 115 120 125

*pp 1, 3, 5-6*  
 Does Not Comply  
 Corrected Diskette Needed

*insert this mandatory numeric identifier wherever*  
 <2217, <2227,  
 or <2237 is  
 shown

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

979 Gly Asn Val Thr Leu Ala Glu Gly Pro Pro Ala Glu Phe Met Val Asp
980      130                      135                      140
982 Phe Gly Ala Leu Pro Pro Glu Ile Asn Ser Ala Arg Met Tyr Ala Gly
983 145                      150                      155                      160
985 Pro Gly Ser Ala Ser Leu Val Ala Ala Ala Gln Met Trp Asp Ser Val
986                      165                      170                      175
988 Ala Ser Asp Leu Phe Ser Ala Ala Ser Ala Phe Gln Ser Val Val Trp
989                      180                      185                      190
991 Gly Leu Thr Val Gly Ser Trp Ile Gly Ser Ser Ala Gly Leu Met Val
992                      195                      200                      205
994 Ala Ala Ala Ser Pro Tyr Val Ala Trp Met Ser Val Thr Ala Gly Gln
995      210                      215                      220
997 Ala Glu Leu Thr Ala Ala Gln Val Arg Val Ala Ala Ala Ala Tyr Glu
998 225                      230                      235                      240
1000 Thr Ala Tyr Gly Leu Thr Val Pro Pro Pro Val Ile Ala Glu Asn Arg
1001                      245                      250                      255
1003 Ala Glu Leu Met Ile Leu Ile Ala Thr Asn Leu Leu Gly Gln Asn Thr
1004                      260                      265                      270
1006 Pro Ala Ile Ala Val Asn Glu Ala Glu Tyr Gly Glu Met Trp Ala Gln
1007                      275                      280                      285
1009 Asp Ala Ala Ala Met Phe Gly Tyr Ala Ala Ala Thr Ala Thr Ala Thr
1010      290                      295                      300
1012 Ala Thr Leu Leu Pro Phe Glu Glu Ala Pro Glu Met Thr Ser Ala Gly
1013 305                      310                      315                      320
1015 Gly Leu Leu Glu Gln Ala Ala Ala Val Glu Glu Ala Ser Asp Thr Ala
1016                      325                      330                      335
1018 Ala Ala Asn Gln Leu Met Asn Asn Val Pro Gln Ala Leu Gln Gln Leu
1019                      340                      345                      350
1021 Ala Gln Pro Thr Gln Gly Thr Thr Pro Ser Ser Lys Leu Gly Gly Leu
1022      355                      360                      365
1024 Trp Lys Thr Val Ser Pro His Arg Ser Pro Ile Ser Asn Met Val Ser
1025      370                      375                      380
1027 Met Ala Asn Asn His Met Ser Met Thr Asn Ser Gly Val Ser Met Thr
1028 385                      390                      395                      400
1030 Asn Thr Leu Ser Ser Met Leu Lys Gly Phe Ala Pro Ala Ala Ala Arg
1031                      405                      410                      415
1033 Gln Ala Val Gln Thr Ala Ala Gln Asn Gly Val Arg Ala Met Ser Ser
1034                      420                      425                      430
1036 Leu Gly Ser Ser Leu Gly Ser Ser Gly Leu Gly Gly Gly Val Ala Ala
1037      435                      440                      445
1039 Asn Leu Gly Arg Ala Ala Ser Val Gly Ser Leu Ser Val Pro Gln Ala
1040      450                      455                      460
1042 Trp Ala Ala Ala Asn Gln Ala Val Thr Pro Ala Ala Arg Ala Leu Pro
1043 465                      470                      475                      480
1045 Leu Thr Ser Leu Thr Ser Ala Ala Glu Arg Gly Pro Gly Gln Met Leu
1046                      485                      490                      495
1048 Gly Gly Leu Pro Val Gly Gln Met Gly Ala Arg Ala Gly Gly Gly Leu
1049                      500                      505                      510
1051 Ser Gly Val Leu Arg Val Pro Pro Arg Pro Tyr Val Met Pro His Ser

```

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

1052          515          520          525
1054 Pro Ala Ala Gly Asp Ile Ala Pro Pro Ala Leu Ser Gln Asp Arg Phe
1055          530          535          540
1057 Ala Asp Phe Pro Ala Leu Pro Leu Asp Pro Ser Ala Met Val Ala Gln
1058 545          550          555          560
1060 Val Gly Pro Gln Val Val Asn Ile Asn Thr Lys Leu Gly Tyr Asn Asn
1061          565          570          575
1063 Ala Val Gly Ala Gly Thr Gly Ile Val Ile Asp Pro Asn Gly Val Val
1064          580          585          590
1066 Leu Thr Asn Asn His Val Ile Ala Gly Ala Thr Asp Ile Asn Ala Phe
1067          595          600          605
1069 Ser Val Gly Ser Gly Gln Thr Tyr Gly Val Asp Val Val Gly Tyr Asp
1070          610          615          620
1072 Arg Thr Gln Asp Val Ala Val Leu Gln Leu Arg Gly Ala Gly Gly Leu
1073 625          630          635          640
1075 Pro Ser Ala Ala Ile Gly Gly Gly Val Ala Val Gly Glu Pro Val Val
1076          645          650          655
1078 Ala Met Gly Asn Ser Gly Gly Gln Gly Gly Thr Pro Arg Ala Val Pro
1079          660          665          670
1081 Gly Arg Val Val Ala Leu Gly Gln Thr Val Gln Ala Ser Asp Ser Leu
1082          675          680          685
1084 Thr Gly Ala Glu Glu Thr Leu Asn Gly Leu Ile Gln Phe Asp Ala Ala
1085          690          695          700
1087 Ile Gln Pro Gly Asp Ser Gly Gly Pro Val Val Asn Gly Leu Gly Gln
1088 705          710          715          720
1090 Val Val Gly Met Asn Thr Ala Ala Ser
1091          725
1460 <210> SEQ ID NO: 20
1461 <211> LENGTH: 596
1462 <212> TYPE: PRT
1463 <213> ORGANISM: Artificial Sequence
W--> 1464 <220> FEATURE: insert
1464 <223> OTHER INFORMATION: Description of Artificial Sequence:bi-fusion
1465 protein TbH9-Ra35 (designated MTB59F)
OK-> 1467 <400> SEQUENCE: 20
1468 His Met His His His His His His Met Val Asp Phe Gly Ala Leu Pro
1469 1 5 10 15
1471 Pro Glu Ile Asn Ser Ala Arg Met Tyr Ala Gly Pro Gly Ser Ala Ser
1472 20 25 30
1474 Leu Val Ala Ala Ala Gln Met Trp Asp Ser Val Ala Ser Asp Leu Phe
1475 35 40 45
1477 Ser Ala Ala Ser Ala Phe Gln Ser Val Val Trp Gly Leu Thr Val Gly
1478 50 55 60
1480 Ser Trp Ile Gly Ser Ser Ala Gly Leu Met Val Ala Ala Ala Ser Pro
1481 65 70 75 80
1483 Tyr Val Ala Trp Met Ser Val Thr Ala Gly Gln Ala Glu Leu Thr Ala
1484 85 90 95
1486 Ala Gln Val Arg Val Ala Ala Ala Ala Tyr Glu Thr Ala Tyr Gly Leu
1487 100 105 110

```

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

1489 Thr Val Pro Pro Pro Val Ile Ala Glu Asn Arg Ala Glu Leu Met Ile
1490      115      120      125
1492 Leu Ile Ala Thr Asn Leu Leu Gly Gln Asn Thr Pro Ala Ile Ala Val
1493      130      135      140
1495 Asn Glu Ala Glu Tyr Gly Glu Met Trp Ala Gln Asp Ala Ala Ala Met
1496 145      150      155      160
1498 Phe Gly Tyr Ala Ala Ala Thr Ala Thr Ala Thr Ala Thr Leu Leu Pro
1499      165      170      175
1501 Phe Glu Glu Ala Pro Glu Met Thr Ser Ala Gly Gly Leu Leu Glu Gln
1502      180      185      190
1504 Ala Ala Ala Val Glu Glu Ala Ser Asp Thr Ala Ala Ala Asn Gln Leu
1505      195      200      205
1507 Met Asn Asn Val Pro Gln Ala Leu Gln Gln Leu Ala Gln Pro Thr Gln
1508      210      215      220
1510 Gly Thr Thr Pro Ser Ser Lys Leu Gly Gly Leu Trp Lys Thr Val Ser
1511 225      230      235      240
1513 Pro His Arg Ser Pro Ile Ser Asn Met Val Ser Met Ala Asn Asn His
1514      245      250      255
1516 Met Ser Met Thr Asn Ser Gly Val Ser Met Thr Asn Thr Leu Ser Ser
1517      260      265      270
1519 Met Leu Lys Gly Phe Ala Pro Ala Ala Ala Ala Gln Ala Val Gln Thr
1520      275      280      285
1522 Ala Ala Gln Asn Gly Val Arg Ala Met Ser Ser Leu Gly Ser Ser Leu
1523      290      295      300
1525 Gly Ser Ser Gly Leu Gly Gly Gly Val Ala Ala Asn Leu Gly Arg Ala
1526 305      310      315      320
1528 Ala Ser Val Gly Ser Leu Ser Val Pro Gln Ala Trp Ala Ala Ala Asn
1529      325      330      335
1531 Gln Ala Val Thr Pro Ala Ala Arg Ala Leu Pro Leu Thr Ser Leu Thr
1532      340      345      350
1534 Ser Ala Ala Glu Arg Gly Pro Gly Gln Met Leu Gly Gly Leu Pro Val
1535      355      360      365
1537 Gly Gln Met Gly Ala Arg Ala Gly Gly Gly Leu Ser Gly Val Leu Arg
1538      370      375      380
1540 Val Pro Pro Arg Pro Tyr Val Met Pro His Ser Pro Ala Ala Gly Asp
1541 385      390      395      400
1543 Ile Ala Pro Pro Ala Leu Ser Gln Asp Arg Phe Ala Asp Phe Pro Ala
1544      405      410      415
1546 Leu Pro Leu Asp Pro Ser Ala Met Val Ala Gln Val Gly Pro Gln Val
1547      420      425      430
1549 Val Asn Ile Asn Thr Lys Leu Gly Tyr Asn Asn Ala Val Gly Ala Gly
1550      435      440      445
1552 Thr Gly Ile Val Ile Asp Pro Asn Gly Val Val Leu Thr Asn Asn His
1553      450      455      460
1555 Val Ile Ala Gly Ala Thr Asp Ile Asn Ala Phe Ser Val Gly Ser Gly
1556 465      470      475      480
1558 Gln Thr Tyr Gly Val Asp Val Val Gly Tyr Asp Arg Thr Gln Asp Val
1559      485      490      495
1561 Ala Val Leu Gln Leu Arg Gly Ala Gly Gly Leu Pro Ser Ala Ala Ile

```

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

1562          500          505          510
1564 Gly Gly Gly Val Ala Val Gly Glu Pro Val Val Ala Met Gly Asn Ser
1565          515          520          525
1567 Gly Gly Gln Gly Gly Thr Pro Arg Ala Val Pro Gly Arg Val Val Ala
1568          530          535          540
1570 Leu Gly Gln Thr Val Gln Ala Ser Asp Ser Leu Thr Gly Ala Glu Glu
1571 545          550          555          560
1573 Thr Leu Asn Gly Leu Ile Gln Phe Asp Ala Ala Ile Gln Pro Gly Asp
1574          565          570          575
1576 Ser Gly Gly Pro Val Val Asn Gly Leu Gly Gln Val Val Gly Met Asn
1577          580          585          590
1579 Thr Ala Ala Ser
1580          595

```

2662 &lt;210&gt; SEQ ID NO: 47

2663 &lt;211&gt; LENGTH: 299

2664 &lt;212&gt; TYPE: PRT

2665 &lt;213&gt; ORGANISM: Artificial Sequence

W--> 2666 <220> FEATURE: *← insert*

2666 &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence: tri-fusion

2667 protein DPV-MTI-MSL (designated MTb31F) cDNA

OK-&gt; 2669 &lt;400&gt; SEQUENCE: 47

```

2670 His Met His His His His His His Asp Pro Val Asp Ala Val Ile Asn
2671 1          5          10          15
2673 Thr Thr Cys Asn Tyr Gly Gln Val Val Ala Ala Leu Asn Ala Thr Asp
2674          20          25          30
2676 Pro Gly Ala Ala Ala Gln Phe Asn Ala Ser Pro Val Ala Gln Ser Tyr
2677          35          40          45
2679 Leu Arg Asn Phe Leu Ala Ala Pro Pro Pro Gln Arg Ala Ala Met Ala
2680          50          55          60
2682 Ala Gln Leu Gln Ala Val Pro Gly Ala Ala Gln Tyr Ile Gly Leu Val
2683 65          70          75          80
2685 Glu Ser Val Ala Gly Ser Cys Asn Asn Tyr Glu Leu Met Thr Ile Asn
2686          85          90          95
2688 Tyr Gln Phe Gly Asp Val Asp Ala His Gly Ala Met Ile Arg Ala Gln
2689          100          105          110
2691 Ala Ala Ser Leu Glu Ala Glu His Gln Ala Ile Val Arg Asp Val Leu
2692          115          120          125
2694 Ala Ala Gly Asp Phe Trp Gly Gly Ala Gly Ser Val Ala Cys Gln Glu
2695          130          135          140
2697 Phe Ile Thr Gln Leu Gly Arg Asn Phe Gln Val Ile Tyr Glu Gln Ala
2698 145          150          155          160
2700 Asn Ala His Gly Gln Lys Val Gln Ala Ala Gly Asn Asn Met Ala Gln
2701          165          170          175
2703 Thr Asp Ser Ala Val Gly Ser Ser Trp Ala Thr Ser Met Ser Leu Leu
2704          180          185          190
2706 Asp Ala His Ile Pro Gln Leu Val Ala Ser Gln Ser Ala Phe Ala Ala
2707          195          200          205
2709 Lys Ala Gly Leu Met Arg His Thr Ile Gly Gln Ala Glu Gln Ala Ala
2710          210          215          220

```

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

2712 Met Ser Ala Gln Ala Phe His Gln Gly Glu Ser Ser Ala Ala Phe Gln
2713 225                230                235                240
2715 Ala Ala His Ala Arg Phe Val Ala Ala Ala Ala Lys Val Asn Thr Leu
2716                245                250                255
2718 Leu Asp Val Ala Gln Ala Asn Leu Gly Glu Ala Ala Gly Thr Tyr Val
2719                260                265                270
2721 Ala Ala Asp Ala Ala Ala Ala Ser Thr Tyr Thr Gly Phe Asp Ile His
2722                275                280                285
2724 His Thr Gly Gly Arg Ser Ser Arg Ser Gly Cys
2725                290                295
2926 <210> SEQ ID NO: 49
2927 <211> LENGTH: 710
2928 <212> TYPE: PRT
2929 <213> ORGANISM: Artificial Sequence
W--> 2930 <220> FEATURE: ← insert
2930 <223> OTHER INFORMATION: Description of Artificial Sequence:tetra-fusion
2931 protein DPV-MTI-MSL-MTCC#2 (designated MTb71F)
@K-> 2933 <400> SEQUENCE: 49
2934 His Met His His His His His His Asp Pro Val Asp Ala Val Ile Asn
2935 1 5 10 15
2937 Thr Thr Cys Asn Tyr Gly Gln Val Val Ala Ala Leu Asn Ala Thr Asp
2938 20 25 30
2940 Pro Gly Ala Ala Ala Gln Phe Asn Ala Ser Pro Val Ala Gln Ser Tyr
2941 35 40 45
2943 Leu Arg Asn Phe Leu Ala Ala Pro Pro Pro Gln Arg Ala Ala Met Ala
2944 50 55 60
2946 Ala Gln Leu Gln Ala Val Pro Gly Ala Ala Gln Tyr Ile Gly Leu Val
2947 65 70 75 80
2949 Glu Ser Val Ala Gly Ser Cys Asn Asn Tyr Glu Leu Met Thr Ile Asn
2950 85 90 95
2952 Tyr Gln Phe Gly Asp Val Asp Ala His Gly Ala Met Ile Arg Ala Gln
2953 100 105 110
2955 Ala Ala Ser Leu Glu Ala Glu His Gln Ala Ile Val Arg Asp Val Leu
2956 115 120 125
2958 Ala Ala Gly Asp Phe Trp Gly Gly Ala Gly Ser Val Ala Cys Gln Glu
2959 130 135 140
2961 Phe Ile Thr Gln Leu Gly Arg Asn Phe Gln Val Ile Tyr Glu Gln Ala
2962 145 150 155 160
2964 Asn Ala His Gly Gln Lys Val Gln Ala Ala Gly Asn Asn Met Ala Gln
2965 165 170 175
2967 Thr Asp Ser Ala Val Gly Ser Ser Trp Ala Thr Ser Met Ser Leu Leu
2968 180 185 190
2970 Asp Ala His Ile Pro Gln Leu Val Ala Ser Gln Ser Ala Phe Ala Ala
2971 195 200 205
2973 Lys Ala Gly Leu Met Arg His Thr Ile Gly Gln Ala Glu Gln Ala Ala
2974 210 215 220
2976 Met Ser Ala Gln Ala Phe His Gln Gly Glu Ser Ser Ala Ala Phe Gln
2977 225 230 235 240
2979 Ala Ala His Ala Arg Phe Val Ala Ala Ala Ala Lys Val Asn Thr Leu

```

FYI

Use of n and/or Xaa has been detected in the Sequence Listing.  
Review the Sequence Listing to insure a corresponding  
explanation is presented in the <220> to <223> fields of  
each sequence using n or Xaa.

## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```

2980          245          250          255
2982 Leu Asp Val Ala Gln Ala Asn Leu Gly Glu Ala Ala Gly Thr Tyr Val
2983          260          265          270
2985 Ala Ala Asp Ala Ala Ala Ala Ser Thr Tyr Thr Gly Phe Asp Ile Met
2986          275          280          285
2988 Asp Phe Gly Leu Leu Pro Pro Glu Val Asn Ser Ser Arg Met Tyr Ser
2989          290          295          300
2991 Gly Pro Gly Pro Glu Ser Met Leu Ala Ala Ala Ala Trp Asp Gly
2992 305          310          315          320
2994 Val Ala Ala Glu Leu Thr Ser Ala Ala Val Ser Tyr Gly Ser Val Val
2995          325          330          335
2997 Ser Thr Leu Ile Val Glu Pro Trp Met Gly Pro Ala Ala Ala Met
2998          340          345          350
3000 Ala Ala Ala Ala Thr Pro Tyr Val Gly Trp Leu Ala Ala Thr Ala Ala
3001          355          360          365
3003 Leu Ala Lys Glu Thr Ala Thr Gln Ala Arg Ala Ala Ala Glu Ala Phe
3004          370          375          380
3006 Gly Thr Ala Phe Ala Met Thr Val Pro Pro Ser Leu Val Ala Ala Asn
3007 385          390          395          400
3009 Arg Ser Arg Leu Met Ser Leu Val Ala Ala Asn Ile Leu Gly Gln Asn
3010          405          410          415
3012 Ser Ala Ala Ile Ala Ala Thr Gln Ala Glu Tyr Ala Glu Met Trp Ala
3013          420          425          430
3015 Gln Asp Ala Ala Val Met Tyr Ser Tyr Glu Gly Ala Ser Ala Ala Ala
3016          435          440          445
3018 Ser Ala Leu Pro Pro Phe Thr Pro Pro Val Gln Gly Thr Gly Pro Ala
3019          450          455          460
3021 Gly Pro Ala Ala Ala Ala Ala Thr Gln Ala Ala Gly Ala Gly Ala
3022 465          470          475          480
3024 Val Ala Asp Ala Gln Ala Thr Leu Ala Gln Leu Pro Pro Gly Ile Leu
3025          485          490          495
3027 Ser Asp Ile Leu Ser Ala Leu Ala Ala Asn Ala Asp Pro Leu Thr Ser
3028          500          505          510
3030 Gly Leu Leu Gly Ile Ala Ser Thr Leu Asn Pro Gln Val Gly Ser Ala
3031          515          520          525
3033 Gln Pro Ile Val Ile Pro Thr Pro Ile Gly Glu Leu Asp Val Ile Ala
3034          530          535          540
3036 Leu Tyr Ile Ala Ser Ile Ala Thr Gly Ser Ile Ala Leu Ala Ile Thr
3037 545          550          555          560
3039 Asn Thr Ala Arg Pro Trp His Ile Gly Leu Tyr Gly Asn Ala Gly Gly
3040          565          570          575
3042 Leu Gly Pro Thr Gln Gly His Pro Leu Ser Ser Ala Thr Asp Glu Pro
3043          580          585          590
3045 Glu Pro His Trp Gly Pro Phe Gly Gly Ala Ala Pro Val Ser Ala Gly
3046          595          600          605
3048 Val Gly His Ala Ala Leu Val Gly Ala Leu Ser Val Pro His Ser Trp
3049          610          615          620
3051 Thr Thr Ala Ala Pro Glu Ile Gln Leu Ala Val Gln Ala Thr Pro Thr
3052 625          630          635          640

```



## RAW SEQUENCE LISTING

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:04

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

```
3054 Phe Ser Ser Ser Ala Gly Ala Asp Pro Thr Ala Leu Asn Gly Met Pro
3055           645           650           655
3057 Ala Gly Leu Leu Ser Gly Met Ala Leu Ala Ser Leu Ala Ala Arg Gly
3058           660           665           670
3060 Thr Thr Gly Gly Gly Gly Thr Arg Ser Gly Thr Ser Thr Asp Gly Gln
3061           675           680           685
3063 Glu Asp Gly Arg Lys Pro Pro Val Val Val Ile Arg Glu Gln Pro Pro
3064           690           695           700
3066 Pro Gly Asn Pro Pro Arg
3067 705           710
```

## VERIFICATION SUMMARY

DATE: 10/08/2003

PATENT APPLICATION: US/09/886,349

TIME: 14:26:05

Input Set : A:\-90-7.app

Output Set: N:\CRF4\10082003\I886349.raw

L:63 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:1440  
M:341 Repeated in SeqNo=1  
L:506 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:720  
L:570 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:240  
L:755 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0  
M:341 Repeated in SeqNo=15  
L:941 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:15  
L:950 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16  
L:954 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:16  
L:1464 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20  
L:1467 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:20  
L:1704 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:480  
M:341 Repeated in SeqNo=25  
L:1743 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:60  
L:2164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:360  
L:2442 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:300  
M:341 Repeated in SeqNo=42  
L:2474 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:48  
M:341 Repeated in SeqNo=43  
L:2657 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:46  
L:2666 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:47  
L:2669 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:47  
L:2930 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:49  
L:2933 M:200 E: Mandatory Header Field missing, <220> Tag not found for SEQ ID#:49